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Apiculture in the State University.

On page 471, Mr. James Heddon very frankly gives his views regarding an apicultural chair in our Illinois Industrial University, but we are forced to differ slightly with him regarding the objects sought to be attained, and the qualifications of the Professor. We fear it would be as difficult a task to teach any person practical apiculture, as it would be to instruct any person in practical farming, practical house-building, practical banking, or practical dry goods vending. Practical apiculture, as with every other practical pursuit, requires much practical experience and a combination of many qualifications to make it successful as a specialty: Who would claim for a moment that the best law university in the United States can impart an education sufficient to insure a national reputation for its graduates? All the University or College can do is to prepare its graduates to receive the practical education.

In our State University we want a Professor or Chair of Apiculture, where the student can be instructed in the natural and physiological history of the honey bee; where the State will encourage the solution of many very important and vital problems, which now stand in the way of successful and special apiculture; where men of eminent talent will be set apart and given facilities for carefully and scientifically investigating causes of disease, and evasions of natural results. What specialist, if any, has the necessary time and facili-

ties for determining many questions daily arising, and which require the nicest scientific education to properly conduct their investigation. The very fact of there being a multiplicity of hives, theories as numerous as the bee-keepers themselves, and errors and hobbies as ridiculous as superstition, prove the want of more thorough education, and the lack of reliable authorities. With our present brilliant array of practical talent, such as can be found in every National, District, State and Local Convention, which meet periodically, and the several bee-papers to publish their frequent interchange of ideas, practices, successes and failures, the practical education will rapidly inculcate itself. But scientific, theoretical, positive education we lack, and mere individual, casual observation will not supply the want. In our introductory article on this subject we suggested the Illinois Industrial University, because we know of no institution so central, with such eminent talent for the purpose, and we mentioned the name of Prof. Burrill in connection with the department, because he possesses in a remarkable degree all the qualifications required to conduct the experiment to a happy success. In the one man is combined to a rare degree the botanist, entomologist, microscopist, philosopher, and scientific gentleman.

St. Louis Fair.—We have received the Premium List of the twenty-second St. Louis Fair, which opens Oct. 2, and closes Oct. 7, 1882. The premiums appropriated amount to \$50,000, of which best display of Italian bees receives \$20, black native bees \$20, imported queen \$10, comb honey diploma and \$10, crate of comb honey silver medal, crate of apiarian implements diploma and \$10, best bee hive, honey extractor, wax extractor, bee smoker, honey knife, and bee veil, each a diploma.

Lecture on Practical Botany.

We feel confident our readers all take a deep interest in everything relating to botany and entomology, so far as they are directly connected with bee-keeping. Dr. J. R. Baker, of Keithsburg, Ill., sent us two specimens, which Prof. Burrill describes below in his very instructive manner. One specimen has been the cause of much annoyance, on account of waxing up the feet of the worker bees:

I send two varieties of plants that are indigenous to this locality and give the names of both, if you please. In our ignorance here we call the one with the red bloom white root, or pleurisy root, but I don't know really what it is. The bees work on the bloom (which is very profuse) very eagerly, and seem to get honey from it freely. The flowers are beautiful, and if it is a good honey plant it would pay to cultivate it. It grows from 20 to 30 inches high, and is nicely grouped, a great many stocks springing from one base. The other specimen which I send is not yet in bloom, but it bears a yellow flower, on which the bees work very industriously in the early part of the day. The plant only grows from 6 inches to a foot in height, and the leaf looks like that of the locust. The sandmint or beemint, etc., of which I made mention recently in the BEE JOURNAL. I see Prof. Cook calls *Monarda fistulosa*. Your book entitled "Bees and Honey," is a magnificent little work. I have Prof. Cook's and A. I. Root's books, and I like them both very much, still I find much pleasure and profit in reading your "Bees and Honey." Every beginner in bee-keeping ought to have your book and it will do the veterans in the ranks good, too, I am sure.

No. 1. *Asclepias tuberosa*, butterfly weed or pleurisy root. This handsome plant, common in fields (hedgerows, etc.), meadows, and waste places with its leafy stem and conspicuous clusters of reddish-orange flowers, the latter appearing throughout the latter half of summer, certainly deserves attention. It is a beautiful thing seen at a distance, and its curiously contrived flowers merit the closest inspection and most careful interpretation. Bee-keepers, however, should observe another thing connected with the plant. There is a good supply of nectar, and bees are not slow to find it out, but many of them pay dearly for their booty. The pollen is lodged in cells with external slits, and collected small pear-shaped stalked masses, which are quite viscid or sticky. To reach the nectar the bee must press against the parts containing these waxy pollen masses, and are almost sure to with-

draw them adhering to the insect's body. Not unfrequently the feet become clogged with the amount of the viscid material from which extrication is impossible. The poor honey gatherer dropping upon the ground or lodging among the grass, struggles in vain for freedom, and dies for want of it. My observations, however, have not been full enough to warrant any statement of the real danger to which a colony of bees are thus exposed where the plant abounds. If I mistake not, the subject has been pretty well written up by some one.

No. 2. *Cassia chamaecrista*, partridge pea, wild sensitive plant. This common, yellow flowered plant is often very abundant in rather low grounds. The leaves are considerably alike those of its relative, the sensitive plant of the green-houses, and are slowly sensitive to touch. The flowers are very attractive to honey-loving insects, and are visited often in great numbers. At the base of each compound leaf there is a curious-stalked, button-shaped gland, which also excretes a sweet fluid and which, therefore, attracts bees and wasps. What is this for? It is well understood that the nectar of the flower serves to secure the aid of insects in carrying pollen, and so favors cross-fertilization, but what advantage can it be to the plant to manufacture and exude the enticing substance far from the flower? From some observations made years ago, I think a possible explanation is offered. Will others seek to disprove or corroborate. It is manifestly injurious to the plant if cross-fertilization is a benefit, to have the nectar of the flower stolen by creeping insects, for they cannot readily pass from plant to plant. Now, if any such ascend the stem, these little stores from the leaf glands would be sure to receive attention, and thus the flower be more likely to escape. That ants do thus turn aside I have frequently seen; but something more. Wasps, during fair weather, are almost constantly busy about these leaf glands, and they appear to do yeoman service in keeping down all sorts of creeping things. What intricacy of plan, what marvellous adaptation of means to end!

Dr. J. P. H. Brown, of Augusta, Ga., writes thus: "We are having a delightful season—plenty of honey and lots of fruit. The crops are very fine and agriculturists ought to feel happy."

Drones and their Work.

Hon. G. W. Demaree, with his proverbial candor and usual ability, on page 472 treats of "queens, drones and workers," and "assumes when a proposition has long been accepted as a 'fact,' the burden of proof rests on the shoulders of those who wish to controvert and overthrow it." We have long had a doubt whether the poor drone has had full justice done it, but have only expressed a doubt, and gave our reasons for entertaining it. Had we known that our doubts were susceptible of being converted into accepted "facts" at the present time, we should have arrayed our proof as frankly as we intimated a doubt.

The first and third of Mr. Demaree's propositions we are not disposed to controvert at the present time, although we should not hesitate to do so if we thought they were founded on error.

We think, however, our correspondent is in error in saying no one colony will tolerate more than one queen, but the exceptions are so rare as to most fully establish the rule; and yet the very colony in which the intrusive queen might be soonest killed, will perhaps be the one to tolerate most drones. It is notorious, that bees are usually most prosperous when the drones are most plentiful, and it is possible that each contingency is to an extent dependent on the other. It is not proof that drones perform but the one single function, because tradition or theory accredits them with but one, or because we have no means of arriving at present at their specific work.

During two days of last week very industriously employed in assisting to extract, it was a noticeable fact that the colonies wherein the most drones were peacefully harbored, were in no wise deficient in quantity of honey, nor in its ripeness and quality.

Mr. Elias Clouse, who has been elected secretary and treasurer of a new Canadian Bee-Keepers' Society, organized on Jan. 13, 1882, writes us that though they have had but 4 meetings, the members now number 40. This is a good beginning for the "Norfolk Bee-Keepers' Association," and promises good results. The next meeting will be held at Simcoe, Ontario, on Friday, August 4, 1882, at 2 p. m.

Normal Excretions of Bees.

We publish on page 474 of this number, a very interesting communication from Mr. C. N. Abbott, editor of the *British Bee Journal*, discussing Rev. W. F. Clarke's question, "Do bees void dry excreta?" Mr. Abbott's article proves much observation and experiment, and apparently goes far to substantiate his conclusions; however, the writer fails to tell us whether the supposed dry excreta is a normal, healthy voidance, or the opposite extreme of the dysenteric voidure.

The writer's standpoint is well taken, that "bees can only void their excreta naturally when on the wing;" but it may be a matter of doubt whether any insect or animal can void dry feces, though frequently we come across those which are comparatively dry. And here arises a question as to the chemical composition of those dry grains or pellets frequently seen in shipping boxes, and sometimes on the bottoms of the hives. A careful analysis and microscopical investigation may determine the presence of beeswax to such an extent as to explain their appearance.

Again, if these pellets are the excreta of bees in a healthy, normal condition, then the amount of flight necessary is certainly very limited, if a box of the dimensions given by Mr. Abbott affords ample facilities, and it would be an easy matter for the apiarist to provide such, and periodically during a protracted or unusually severe winter, remove his colonies into a heated room, run them into a box of corresponding dimensions, give them a lively "shaking up," and again return them to their hives for another season.

As intimated by the learned writer, much more is involved in this question than mere idle curiosity, and we unite with our contemporary in hoping that the matter will receive the fullest investigation at the hands of the most scientific and progressive apiarists in all parts of the world. Those having the facilities, leisure and necessary expertness, have opportunity for a very interesting series of experiments.

Cincinnati Industrial Exposition.

We have received the circular of the tenth Cincinnati Industrial Exposition, which opens Sept. 10 and closes Oct. 7, 1882. The circular is a marvel of neatness and taste, and certainly is

a credit to the Exposition as well as the lithographers, and embraces liberal premiums for all the leading features in art, science, literature and agriculture—almost everything, except bees and honey.

Smoker Fuel.—Mr. A. S. Etherington, Melton, N. S., writes as follows:

I send you by mail to-day a sample of what I consider the best fuel for smokers. I think it is the same Mr. Heddon spoke of in *Gleanings*, No. 7, page 327. For four years I have been keeping bees, and I never used anything else, it giving me such satisfaction. I never tried to get anything better. Mr. Root says some one ought to supply this great boon to the apiarist. I would like for you to test the sample and pass judgment on it.

The sample is very good, and gives an admirable smoke, but no one would ever find it remunerative to supply the article at any price. The apiaries are very few in the United States the proprietors of which could be induced to purchase smoker fuel, and then the quantities wanted would be so very small that nothing but vexation would attend the traffic. We regret to write anything discouraging, but better that than delusive hopes.

Selling Honey at Fairs.

The Tri-State (Ohio, Michigan and Indiana) Fair Association have made a new departure, in the establishment of a Traffic Department. From their circular for 1882 we copy as follows:

With a view to the Traffic Department, no selling will be allowed in the large and commodious main building, which will be kept for exhibition purposes only, but sales-rooms or booths will be provided where all who arrange an exhibit in the main building or elsewhere in appointed places, can, for a reasonable rent, offer for direct sale on the grounds all manufactured wares of merit, or take orders for future delivery, under such rules and regulations as will guarantee square dealing, and protect both buyer and seller.

The fine art hall is well adapted to purposes not only of exhibition but also sales, and artists will be at liberty to take orders for their productions, subject to delivery at the close of the fair.

A traffic department connected with each of the fairs and expositions will be a great benefit to all who are producing for market, as it gives opportunity for extensive effective advertising, and a splendid opportunity for exhibiting goods and wares. The traffic department has for years been

a most important feature in connection with the English and Canadian fairs, and last year Mr. D. A. Jones' sales of honey at the Toronto Fair amounted to several thousand pounds, mostly in small packages, and at very remunerative prices. We hope bee-keepers throughout the United States will make it a point to be well represented at all the expositions and fairs offering the least encouragement, and force sales of pure, choice honey, upon consumers, and thus educate the public to its greater consumption. There should be much more honey consumed in this country, and with proper energy, a home demand can be created for our whole production.

**MISCELLANEOUS.**

The Smoker Useless with Cyprian Bees.—The editor of the *Bee-Keepers' Guide* gives the following as his experience with the new race of bees:

Our first season's experience with the Cyprians, revealed to us no very vicious peculiarities. They were restless and always running and queens hard to find, but last spring they seemed almost uncontrollable. We have one colony containing a high-priced tested queen with which it is difficult to have any dealing. We open the hive carefully and deluge the bees with smoke, and as it clears away the top of the hive will still be covered with bees trying to stand on their heads and whirling and maneuvering curiously. Then we carefully remove the side of the hive, and it becomes necessary to use more smoke. With the first frame removed, they renew the attack with fresh vengeance and by the time the second frame is taken out we are covered with bees, feeling through clothing in a manner which must give satisfaction to them. They then travel up pant legs inside and out, into sleeves and bee veil, and we find it necessary to adjourn for comfort's sake.

Should Cyprian bees be generally introduced throughout the country, smoke and fumigation will gradually drop out of the use of bee-keepers, as the Cyprian loses none of its activity when smoke is applied.

We think that no bee-keeper should feel contented unless he is owner of one such colony. But in case he has a very near neighbor who keeps a sample hive and whom he frequently visits during manipulating times, it would be a convenient way to obtain a knowledge of them without giving up the body to sacrifice. Soon we shall all come to enjoy the gentler race.

Had Enough of the Cyprian Bees.—The editor of the *Bee-Keepers' Instructor* remarks as follows about his Cyprian bees:

We had one nucleus of Cyprians last season, and as our readers will perhaps remember, stated that we handled them without difficulty, and thought they were not so cross as many claimed them to be. But we take it all back, for we have found, since ours have bred up strong, that they always have an end for business. They are troublesome to handle, paying little or no attention to smoke, and boil over the hive whenever it is opened. They sting most unmercifully on the slightest provocation, while the mashing of a bee seems to set them wild. Strains of these bees may differ, but so far as our experience goes we want nothing more to do with them. From the limited experience we have had with them we fail to see that they possess any superiority over the most gentle Italians. True, they are very prolific, but so are many of our Italians. We have decapitated the Cyprian queens (we now have two colonies), and have requeened with virgin Italians, preferring to run the risk of getting hybrids rather than keep the Cyprians. Ours may be hybrids, and for that reason we do not wish it understood that we speak for the Cyprians in general, but only so far as our experience goes; although we believe it corresponds very closely with that of the majority of those who have tried the Cyprians. At any rate we will rest satisfied for awhile with our experience, not so much for our dislike of stings (as they effect us but very little) as the fact that they are too much like "Banquo's ghost"—they will not "down" when we wish to close the hive, no matter how much smoke we pour into them.

Fumigating Bees.—Mr A. Pettigrew, in the *London Journal of Horticulture* remarks thus on the above named subject:

Doubtless Mr. Raynor is correct in stating that fumigating bees with the smoke of Thyme and other substances is practiced in foreign countries, and his quotations put the matter beyond question. For aught I know the practice of using smoke to fumigate bees may have been known at an early date in Great Britain. But James Bonner, bee master, Auchencrow, Berwickshire, who wrote and published an able work on bees in the year 1879, does not appear to have used smoke or known of it in his day. Bonner's book fell into my hands for the first time a few weeks ago. After Bonner's day my father was perhaps the most extensive bee-keeper in Great Britain for many years. Both he and Bonner practiced artificial swarming without using smoke of any kind. How Bonner proceeded I do not know, but my father simply fixed a cabbage blade in front of his face, turned up his hives and drummed and drove swarms from

them in the manner we now do with the use of smoke to prevent stinging.

One autumn when my father was in Edinburgh selling his harvest of honey he met an Irishman, who offered to instruct him how to carry a hive of bees fully exposed up and down the streets without getting a sting, for a gill of whisky. The bargain was struck, and "the secret" thus obtained was worth all the whisky in the city to my father and to hundreds of bee-keepers besides, and doubtless to thousands of apiarists during the last 10 years. The use of smoke from fustian and corduroy rags makes bee-keeping comparatively easy and pleasant work; and though I am courageous enough amongst angry bees with smoking rags in my hand, I would not like to undertake to swarm 50 hives artificially without the use of smoke. Without the least disposition to question the truth of what Mr. Raynor says about the use of smoke being known long before the Irishman's day, the probability is great I should never have known it, and never have been a bee-keeper at all, but for the Irishman and the gill of whisky in Edinburgh.

Equalizing Colonies.—The *Indiana Farmer* remarks as follows:

For the best results it is necessary that all colonies be made good and strong by the time the honey harvest begins. The frames of comb should be well filled with brood, and the hives full of bees. With only a few colonies, all seemingly in the same condition, we find some colonies will far outstrip others in brood rearing and be ready for the harvest before it comes. Frames of brood should be taken from the strongest and given to the weakest and in this way equalize the colonies before harvest commences. It will not perceptibly injure the strong colony, and will soon put the weaker one in working condition. In building up weak colonies by this method, it is better to do the work in the middle of the day, when the bees adhering to the combs can also be added as they will nearly all be young bees and will stay where put. In all manipulations of this kind first ascertain the whereabouts of the queen, so as not to transfer her with the combs.

Bees Gathering Pollen.—The *Grange Bulletin* remarks as follows:

A bee never gathers pollen from more than one variety of flowers on the same trip or visit. If so, why is there such a perfect sameness of color and appearance of both little pellets carried by the bee. We do not assert that all the bees gather and bring in the same kind of pollen at the same time, but that each bee gathers only one kind the same trip, and may collect various kinds during the day. It is also a well established fact that a bee never gathers pollen and honey on the same trip to replenish their stores with, but may gather pollen one trip and then bring in honey the next trip. How grand and wise has

the Great Architect been in His distribution of knowledge to the little honey bee in the visiting of the various flowers for pollen which is so useful in the fertilization of the same in its most perfect order, producing perfect fruits and seeds of their special kinds in their seasons. Hence, we say study well Nature's grand laws as well as the habits of the little bees and manage them accordingly.



Local Convention Directory.

1882. *Time and Place of Meeting.*
 July 25—Western Iowa, at Winterset, Iowa.
 Henry Wallace, Sec., Winterset, Iowa.
 Aug. 10—Maine State, at Harmony, Maine.
 Wm. Hoyt, Sec.
 Sept. 5—N. W. Ill. and S. W. Wis., at Rockton, Ill.
 Jonathan Stewart, Sec.
 Oct. 3-6—North American, at Cincinnati, O.
 Dr. Ehrick Parmly, Sec., New York City.
 5—Kentucky Union, at Shelbyville, Ky.
 G. W. Demaree, Sec., Christiansburg, Ky.
 Tuscarawas Valley, at Newcomerstown, O.
 J. A. Bucklew, Sec., Clarks, O.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

The National Convention.

The following is the official call of the Secretary, Dr. Parmly, for the Convention of the North American Bee-Keepers' Society. We hope there will be a large attendance:

The North American Bee-Keepers' Society will hold their 13th annual meeting at Washington Park Hall, Cincinnati, O., across Washington Park from the Exposition building. Time, Oct. 3rd to 5th, 1882. First session Tuesday, 10 a. m., Oct. 3. We are encouraged to hope that this will be a very profitable meeting, as we are promised papers from, and the presence of, a large number of our most prominent bee-keepers both in the United States and Canada, and essays and implements of the apiary are expected from abroad to add to the knowledge imparted by the research and inventive skill and methods of our countrymen.

EHRIK PARMLY, Sec.
 New York, July 12, 1882.

The bee-keepers of Boone Co., Indiana, are invited to meet in Lebanon, at Barton Higgins' office, over Jackson's bee hive, on the west side of the square, to organize an auxiliary County Association, on Aug. 10, 1882.

GEORGE J. FREY,
 ORA KNOWLTON, } *Executive Com.*
 JAS. H. OREAR, }

The summer's meeting of the Cortland Union Bee-Keepers' Association, will be held in Cortland, N. Y., on Tuesday, Aug. 8, 1882.

M. C. BEAN, Sec.

CORRESPONDENCE

For the American Bee Journal.

A Day With Mr. Heddon.

WM. F. CLARKE.

Thursday July 6th, was a red letter day in my diary. It was at once the longest and shortest day of the year, lasting from 6 a. m. until 1:30 the following morning. In fact, like an old-fashioned New England Sunday, it began on the previous evening. Crowded full of bee and other talk, the hours were all too few, and too quick in their flight. It was a great mistake to appropriate only one day, however lengthened at both ends, for a visit with Mr. Heddon. I left Dowagiac feeling like the darkey preacher who had taken a hearty meal of dried apples, full to bursting. And the trouble now is to give, within any tolerable dimensions, an account of my visit.

Mr. Heddon is respectfully requested not to read the paragraph I am about to write, because truth and justice compel a strain of eulogy which may prove too large a dose of dried apples for his good. Welcome more cordial, and hospitality more hearty could not have been extended to me if I had been an own brother or first cousin. The glimpses of family life were very pleasant. Mr. Heddon writes well but he talks better. He is indeed a lively, entertaining, and instructive companion. During all those quick-flitting hours, the conversation never flagged, and when the engine let off its two toots for a start, the regret was that so much was left unsaid. I wish Mr. Heddon believed as I do in another life, because then there would be on his part, as there is on mine, a prospect of some time or other having a full chance of discussing to our heart's content, the many themes on which it was a delight to converse. I have set the question pump on many a human fountain in my time, but do not remember ever finding one so full and apparently inexhaustible as Mr. H. He has thought out every subject for himself—looked at its many bearings—and you can hardly suggest a phase of it which has not already occurred to his own mind, been thoroughly canvassed, and assigned its due weight. In regard to bee-keeping, he is a living encyclopedia. What he doesn't know about it, is hardly worth knowing. Even when you cannot subscribe to his opinions, you are forced to admire the reasoning on which they are based, and the air of sincere conviction with which they are advocated. I felt it highly flattering to myself that we differed so little. N. B.—We did not discuss the pollen theory, having already done ample justice to that in the BEE JOURNAL, and finding so many other more pressing matters to talk about.

After an early breakfast, we proceeded to the apiary, which is located about a mile from Mr. Heddon's residence. It was a lovely summer day, and just in the thick of swarming-time. Mr. H., after full trial of all the methods of artificial division, has returned to natural swarming, as most sensible and experienced bee-keepers have done, or are doing. You get the most industrious colonies, the finest queens, and the best results generally on this plan. In a large apiary, it is less trouble than any known artificial method. Where only two or three, or some half dozen colonies are kept, it does not pay to watch all the live-long day for a solitary swarm. But in this, as in many other respects, amateur bee-keeping is a vastly different affair from bee-keeping as a business. The idea that if natural swarming is permitted there is danger of the bees going off to the woods, is contradicted by actual trial and experience. With trees, and especially evergreens, adjacent to the apiary, the bees are pretty sure to cluster close by. Mr. Heddon has an orchard on one side of his apiary, and a grove of "grubs" (dwarfish oak brush), on the other. The bee-yard proper is entirely clear of trees. There was a lively time of swarming all the forenoon, but, invariably, the bees either betook themselves to the orchard or to the "grubs." If two or more swarms rose at the same time, a Whitman fountain pump was used to keep them separate. The mimic shower diverted the swarms, and kept them from uniting. Hives being all in perfect readiness, the work of gathering and hiving was quickly done. Mr. Heddon uses no hiving poles, bags, or other ingenious devices. The bees are allowed to cluster naturally; shaken into a large and light willow basket lined with burlap with a cover attached also of burlap, which is quickly thrown over the basket full of bees; carried to the hive, and poured out in front of it; a board about 2x4 feet having a spread of burlap on it, being laid flat on the ground in front of the hive. A turkey feather and a big iron spoon are used to direct the bees toward the entrance, and *presto*, the grand procession is formed for their future home. Let me commend the use of that big iron spoon. It works well, better I think than the feather, where the bees are clustered thick, as it does not tickle and irritate. Of course, it must be handled gently.

Mr. Heddon's hives are prepared for swarms merely by being thoroughly cleaned, and filled with frames provided with wired comb foundation. Mr. H. uses the Given press for making his foundation, and it certainly does most excellent work both for brood frames and section boxes. He is a strong advocate for wiring, and I saw ample proof in his apiary that the bees do not object to it. With every sheet of comb foundation securely fastened in this way, there is no further anxiety when a swarm is hived, and no need to go through the newly formed colonies in a day or two to see if any of the foun-

dation has broken down. I looked at hive after hive of bees that had been at work for a few days or a week, and prettier cards of comb I do not wish to see. But Mr. H. uses the finest of wire, and it is put in so skillfully, that the bees do not seem to know it is there. This is almost the only point in which Mr. H. departs from nature, in the management of his apiary, and certainly the results appear to justify his practice. There are many bee-keepers who seem to take a pride in forcing novelties on their bees, but Mr. H. is not one of these. It is his constant aim to find out natural law and harmonize with it as closely as possible.

Swarming is an O-be-joyful process, and it seems too bad that the bees should be deprived of the fun of it. They work prodigiously hard most of the time, can they not have one glad holiday in the season? With what a zest and a vim they settle down to housekeeping when their little shindy is over! I know no plan of artificial division which they accept cheerfully. They are glum, confused, sullen, and morose-like; slowly and reluctantly accepting the situation, and going to work at the bidding of a stern necessity, rather than under the prompting of a happy and satisfied energy. As Mr. Heddon watched the glee of the merry little creatures, listened to their joyous hum, and saw them settle down contentedly in their new and nicely furnished homes; he recognized the fulfillment of a natural law; while I, beyond this, recognized the wisdom and goodness of their and my Creator. We didn't quarrel over it, but I suppose each of us thought we had the best of it; I am sure I did.

Mr. Heddon uses the Langstroth hive for two reasons: 1st, he likes it best; and 2d, it is the most popular, consequently the most likely to suit purchasers. He runs his apiary mostly for comb honey, using the extractor in the rush of the season, as a supplementary affair. He thinks this plan lessens the labor of the bee-keeper, or rather spreads it over more time, as the section boxes can all be prepared before the busy season comes on. He is of the opinion that this method does not lessen the bee-keeper's profits. I think he has got the matter of section boxes down to a fine point. His plan, as all attentive readers of the BEE JOURNAL know, is to have tiers of single section box cases. His sections are $4\frac{1}{4}$ inches square. The cases are put on one at a time. As soon as the bees are fairly at work in one case, a second and then a third is put under it. His gridiron rack between the body of the hive and the cases work well. The bees fasten that, while the case is left readily movable. Mr. Heddon's principle is to let the bees do the heft of the work, while he superintends and regulates their industry. I think he is right. Many bee-keepers encumber themselves with a lot of needless work, which the bees are able and willing to do for them.

One of the chief points of my curiosity was that of seeing the leather-colored queens and workers of

which we have read so much. I must own I have rather fallen in love with them. They are of large size, unsurpassed in industry, and by no means cross. Mr. Heddon does not breed for color but for business. His bees have three and sometimes four bands, but they are of a light brown, dusky hue. For years he has been cultivating strains that proved themselves the best workers, and is confident that he now has bees which gather largely from the red clover. He frankly calls them hybrids, and believes that there are strains of the German bee as good as any Italian, while the cross is better than either. He distinguishes between the brown and the black bee, a distinction that was new to me. His advice is to avoid the blacks altogether, as puny, irascible, and inferior workers. He kindly presented me with one of his average leather-colored queens, and she is now putting in her best licks beside my Italians and Syrians. I have no Cyprians. A colony of them that I had last year made my little apiary too hot for me.

Toward evening we took a drive into the country around Dowagiac. I was not favorably impressed with the bee-keeping resources of the region as I saw it from the village. But I got a different idea of it during our drive. The soil is a light, sandy loam. White clover luxuriates in it. Within a short distance of the village, basswood abounds. It is found on both high and low land, blooming early on the higher slopes, and later on the flats. The tulip tree, berry-bloom, and motherwort are abundant. Mr. Heddon has scattered the seeds of melilot here and there in waste places, and even around a large gravel pit, it is making a luxuriant growth where hardly anything else would flourish.

Mr. Heddon has the idea that even a good locality may easily be overstocked with bees. For the best results he would not have more than 50 colonies occupying one range. After that, though bees may do well, they will not accomplish their utmost in the way of honey gathering. The percentage of stores will be smaller. This opinion surprised me and awakened some incredulity, but I was not prepared to contest it, in the face and teeth of Mr. Heddon's large and long experience.

Mr. Heddon's success as a bee-keeper has been encouraging. Those who know him do not need to be told that he is not an over-sanguine man. Indeed he is apt to get the doldrums now and then. Occasionally he has been suspected of presenting the sombre side of the business too conspicuously. Still, his own career has been such as to awaken ambition in the mind of any enterprising youth with a short purse, and the world all before him. He is only in the prime and vigor of life, yet he has about all the comforts he can use to advantage. A good home, a nice wife, three bright and healthy children, an eligible village property, an apiary yielding a livelihood and some profit—how much I couldn't find out—a healthy

business giving any amount of intellectual exercise, with occasional bits of enjoyable leisure, what more can a man desire? It has cost a large amount of hard work, and is the fruit of many years of steady perseverance in a chosen pathway not all bestrewn with flowers, but how many strive and toil just as much without these satisfactory results? The man himself is of course always an important factor in a career of success, and in no line of things is this more true than in bee-keeping. Without certain qualities, difficult of attainment, there is pretty sure to be failure.

Mr. Heddon does a pretty large supply business, but like others with whom I have met who are in the same line, thinks there is nothing in it. The business is too much cut up, and the competition too keen for a decent profit.

"We, us and Co." are not so formidable as I expected to find them. Mrs. H. beams with kindness and good nature, is a model hostess, but seems to think silence golden "before folks." Perhaps her spouse has the richer benefit, "all by his lone!" The children are too young to have opinions of their own as yet. The apprentices, two in number, would hardly presume to do more than ask information on bee lore from their experienced and able instructor. Fine, intelligent young fellows, they have indeed a valuable opportunity of acquiring the science and art of bee-keeping. I should like to have their chance myself for at least one summer, and would certainly try to get it, were I not parson and editor as to life-work, with bee-keeping as only a sort of by-play, or, as the ladies would call it, mere "knitting-work."

Listowel, July 14, 1882.

Country Gentleman.

Apiarian Exhibits at Fairs.

W. Z. HUTCHINSON.

Considering how little has been done in the way of exhibiting apiaries, implements, products, etc., at fairs, the Michigan State Agricultural Society offers quite liberal premiums in the apiarian department. In regard to the premiums offered in this department by other State agricultural societies, I have no positive knowledge; I do know, however, that some bee-keepers have complained in regard to the meagre premiums offered by the agricultural societies of their respective States; but if larger and better apiarian exhibits were made, it is more than probable that larger premiums would be offered, and the list extended. The dealer in apiarian implements, the bee-keeper who rears for sale improved strains of bees and queens, and the producer of large quantities of honey, all find an excellent advertisement in a carefully prepared, tastefully arranged, and appropriate exhibition of their wares at a State fair. The well-known apiarist, D. A. Jones, sold several thousand pounds of extracted honey last fall, at a fair in Canada. The

honey was put up in small tin pails and tin cans, and neatly labeled. The smallest package contained only two ounces of honey, and sold for five cents.

One great difficulty in exhibiting bees at fairs is that, if allowed to fly, they visit candy and fruit stands, and cider mills, causing so much annoyance that their exhibitor is soon told that he must either shut them up or remove them from the grounds. Perhaps the majority of the bees causing the trouble are from some neighboring apiary, but, as long as an exhibitor's bees are flying, the whole blame will be attached to them. To keep them confined during the journey to the fair, while it is in progress, and then on the homeward journey, is pretty hard on the bees; they become uneasy and many of them die. The only remedy is to carry the bees out each day, after the crowd has departed and the candy and fruit stands are closed, and allow them to fly. Here arises another difficulty; unless the bee-keeper waits until dark before closing the hive, the bees will not all have returned, while if he waits until the next morning before closing the hive, unless he is on hand "at the break of day," the bees will be out at work. There are two ways out of this difficulty; one is to get some accommodating watchman to close the hive after the bees have ceased flying, and the other is to carry a tent, bedding and provisions, pitch the tent upon the fair ground, and eat and sleep in it during the fair. By so doing, the exhibitor is always on hand to attend to his bees.

For the convenience and economy, many exhibitors whose almost constant attendance is required by their exhibits, prefer to live in a tent upon the grounds during the fair. An observatory hive—that is, one with glass sides—is necessary in exhibiting bees at fairs. In order that visitors may be gratified with the sight of a queen bee, it is well to have a single-frame observatory hive; that is, one just large enough to receive a single comb covered with bees. Of course, from one side or the other, the queen will always be visible, and sometimes may be seen depositing her eggs. The *British Bee Journal* for January contains a description of an excellent observatory hive for use at fairs. The hive is twice as long as an ordinary hive, and as it is only half filled with frames, there is space to move them apart inside the hive, and show the interior of the brood nest, the queen, etc. The frames are moved about by taking hold of narrow strips of heavy, folded tin that are attached to the ends of the top bars of the frames, and project through long narrow slots that extended the whole length of the upper side-bars of the wooden frame-work of the hive.

In a late number of the *AMERICAN BEE JOURNAL* are some excellent suggestions in regard to the manipulation of bees at fairs. Among other things it shows how a small space in one corner of a building or room may be divided off by means of a mosquito bar partition, and bees handled and

exhibited, and the secrets of the hive disclosed behind the mosquito bar partition, while the crowd outside looks on without fear. The entrances to the hive are through the sides of the building. The only objection that I see to this plan is that, if allowed to fly, the bees trouble the candy and cider makers.

Comb honey for exhibition may be stored in section boxes of different sizes. The largest size should hold, perhaps, two pounds, the next size smaller, one pound, while the smallest has only one-fourth of a pound. To give the honey a "gilt edge" appearance, the outside of each section may be covered with gilt paper; and then the sections can be piled up in the form of a pyramid, with the largest section at the bottom and the smallest at the top; or they may be piled up into the form of a church, castle or whatever shape the taste of the exhibitor may dictate. In order to show how honey is sent to market, it would also be well to have at least one nicely finished shipping crate filled with sections of honey. By partly filling section boxes with properly shaped pieces of wood, so as to leave spaces in the shape of stars, hearts, letters, etc., and giving them to the bees during a bounteous flow of honey, the bees can be induced to build comb in the fancifully shaped spaces and fill it with honey. Such devices as these attract considerable attention at fairs.

Extracted honey presents a fine appearance put up in glass fruit jars. Different sized jars can be used, and then arranged in some attractive manner. If candied, the honey could be exhibited in tin pails of varying sizes, and adorned with bright labels. A placard should be attached explaining the difference between extracted and strained honey; it should also explain about candied honey, how it can be restored to a liquid state by the application of heat, etc.

In making a display of beeswax, it might be caked in different sized vessels, and then piled up in the form of a pyramid. The largest cake might be made in a large tin pail, while the smallest might be run in the chimney of a small night lamp. Sheets of comb foundation can be shown just as they come from the mill; other sheets partly drawn out, and others fully drawn out into a complete comb. A placard should explain about comb foundation, what it is, how it is used, its advantages, etc.

The large implements used in the apiary, such as honey extractor, lamp nursery for hatching queens, bee hives, wax extractor and comb foundation machine, can stand by themselves upon the floor; while the smaller implements, like the honey knife, bee-veil, smokers and queen cages would appear to better advantage in a small show case. The display of bee literature would also look well if appropriately arranged in a show case.

Railroad companies charge nothing for carrying goods to and from the fair, and if the exhibitor carries a tent and boards himself, the expense

of attending a fair is not great. I have a bee-keeping friend who made an exhibit at our State fair last year, and received more than \$50 in premiums, while his expenses did not exceed \$5. He lived in his tent during the fair. Another friend, who lived so near the fair that he could go home at night, received last year more than \$40 in premiums.

Rogersville, Mich.

For the American Bee Journal.

Apicultural Professorship, etc.

JAMES HEDDON.

MR. EDITOR: It was always my part to feast on ideas in print. If I could have but one way to get at a good lecture, hear it delivered, or have it on paper, I would take the latter way, unless the orator was of the first order. I always had full faith in our agricultural college, State chemists, and more than all the rest, the important chair occupied by Prof. Cook, viz., entomology. The gratis pamphlet issued by the State, through Prof. Cook, is worth its weight in gold to the farmer or gardener, if I am any judge.

If bee culture has a sufficient outlet for its products, to warrant our producing all we can, as a nation, then I hail the State apiary and Professor and Lecturer on apiculture, as great auxiliaries to its proper development. But right here, I want to say that this Professor must be a Professor of *practical* apiculture, not speculative. He must not only have had an apiary in his head, made up of hives that his contemporaries have written about, but he must have had experience, and plenty of it, with one or more apiaries of size. I want to say, that the knowledge and system needed for the successful management of large, special apiaries, is vastly different from that needed for the best management of 10 to 25 colonies. I wish further to give it as my opinion that specialists will raise the honey of the future. I suppose, at this time, hardly any one doubts the last statement. Those who may, have only to cast their eyes back over the past decade to verify the truth that just in proportion as specialty has taken the place of the Jack-at-all-trades system, have we been able to have the produced and manufactured comforts of life, at a price within the reach of all. Every day we hear some one exclaim, "Well, well, I don't see how that was gotten up for that price?"

Honey production has been going rapidly in the same direction, for the past 15 years, since I have been connected with the pursuit. I know some men are capable of managing two or more kinds of business at once, but I call any man a specialist who keeps and means to keep colonies enough to occupy his field completely. Say 85 to 150 colonies, spring count. This number of colonies need a very different management, to get the most income from the least outlay of combined capital and labor, from that which is best adapted to a few

colonies, a point which I will try to clearly illustrate in an article in the near future.

In reply to J. V. Caldwell on foundation making, I will say that we have run two Dunham, one Root, three Vandervort, and three Given machines, and we know we can run off more sheets and more lbs. from the press than ever was run from any roller mill, as far as reported. When the sheets are off they are the same size they went on to the book, and the line is bulky and soft, and the base thin, and the bees work it much faster and into much more delicate combs than any rolled foundation I have ever made, or been able to get. I would like to have you find one of my students using any sort of foundation except Given, and they have made the experiments with me. I am aware that the Dunham, or any other roller mill can be set so as to run about as easy as a "clothes wringer," and it makes about as good foundation as the wringer, when thus set. The trouble with me was, I was trying to make foundation equal to the sample strips and pieces that had been sent me as specimen work. Well, perhaps I do not know of the best lubricators and methods of manipulation; I know I am not an expert mechanic. Let us know this truth, and let us couple with it the other truth, that we run off 271 sheets of thin Given foundation by one lubrication of the book. Machines that make first-class foundation with this ease, are valuable to the less expert. During the present season I have sold several thousand pounds of Given foundation exclusively, and many others have used and sold much more, and is there not someone who will step forward and tell how the Dunham, Vandervort or Root foundation surpassed the Given among the bees? It seems strange that some one has not spoken out from among the dishonest or mistaken, against this new foundation.

Last season I had a strong opposer of the Given foundation who had not tried it. "He would, though." He ordered about equal parts of Vandervort and Given, to the amount of about 150 pounds; of both heavy and light. When he was, as I thought, under full sail with his experiments, I impatiently wrote for a verdict up to date. He replied (consistent with his former prejudices) that he thought he liked the Vandervort the best. I said no more. Neither has he. All I know further about his test is that early last spring he bought a Given press and book. Actions speak louder to me than words.

"Drones, their uses," by Dr. Baker interests me much. This Dr. B. has evidently not unwisely "entered the arena." As one of your readers, let me extend the right hand of fellowship to the Doctor. I think that in a way back number of either the *BEES JOURNAL* or *Gleanings*, I took somewhat the same position as the Doctor regarding the possible use of the hitherto supposed "dead-beat" drone. Knowing but little about it, and being a honey-producer to the extent of

the necessities of a growing family, and having but little time to experiment, I felt like leaving this theme to such men as Prof. Cook, who has done us such signal service on other and like problems of our pursuit. I do know that colonies do good work with no drones at all, as I have a majority on last year's full sheets of all worker foundation on wires, and I further know that some colonies do sometimes possess so many drones that they are nearly worthless as surplus honey colonies. In view of these truths, I am in favor of casting the drones entirely out of colonies that I dislike to have reproduce their like in my yard.

Mr. S. A. Shuck has asked me a question that I never pretended to be able to answer more than theoretically. I will say, however, that after reading his account of his manipulations carefully, I cannot see that either the bacteria or pollen theory are entirely shut out. I have always noticed that mixing bees of different colonies tended toward dysentery. I used to unite weak colonies in the fall (now I "take them up"), and they invariably had the dysentery first, and worst, as a class. One year ago last winter, I united three colonies into one only, and within 3 weeks they came out in front of the hive and soiled all about the entrance, and all winter long they laid out and buzzed and flew and mused about, and while about two-thirds of all the rest of the apiary died with the same malady, this colony survived, "but it was a tight squeeze." I have in my possession a letter from a gentleman of undoubted veracity, who tells me that he calls to mind two or three instances where whole apiaries have died with dysentery during June and July. Strong colonies that were in apparently perfect condition in the morning, would show signs at noon, daub everything up at night, and before the next night were silent as the tomb.

Dowagiac, Mich.

For the American Bee Journal

Queens, Drones, Workers.

G. W. DEMAREE.

When a proposition pertaining to bee-culture or any other industry or science once becomes an accepted "fact," the tendency is to cease further investigation. Under such circumstances error may find a lurking place for a time.

From the earliest period of the modern system of bee-culture, those best qualified to speak intelligently have substantially agreed upon the following three propositions, and have accepted them as well authenticated facts, viz:

The queen is the mother of the colony, and has no other functions than to lay the necessary eggs, and to perform the queenly office, i. e., the focal point of attraction resulting in what we call a normal condition in the hive.

The drone is the male honey bee—transient in existence, having no other function than to "mate" with the young queens.

The worker bees are undeveloped females, and perform all the labor pertaining to the economy of the bee hive, of whatever nature or kind.

Are the above propositions true? Of course I have no reference to the precise language which I have employed to state them, but substantially, are they true? I believe that the first and third have never been called in question, and the second not till very recently. If there is a bare possibility of a mistake as to the functions of the drone, the editor for calling attention to the subject in the BEE JOURNAL, of June 28, and Dr. J. R. Baker for his outspoken skepticism as to the truth of the proposition, so well expressed in his communication on page 437, issue of July 12, will deserve the thanks of all intelligent apiarists. Because if it should turn out that the presence of drones in a colony is necessary for other important purposes besides the very important one of fertilizing the young queens, why then, the somewhat expensive efforts to suppress and curtail their number by the use of all worker foundation, and the keen edge of the honey knife will sooner or later result in failure and ruin. But I assume that when a proposition has long been accepted as a "fact," the burden of proof rests on the shoulders of those who wish to controvert and overthrow it.

I hold that the function of the drone as stated in the above proposition, is as essentially necessary to the propagation and perpetuity of the race as that pertaining to the queen or workers. The mere fact that the office of the drone is limited to the one act of impregnating the queen, by no means makes him a "dead-beat libertine." He who created them "male and female," also assigned to each its functions, and both alike are legitimate. The drone, though quite gay in his season, is nevertheless an exceedingly modest insect, as I have learned, to my disappointment and disgust while prosecuting my experiments to discover a method to "mate" queens in confinement.

The short, gay, and seemingly useless life of the drone is in perfect harmony with the "eternal fitness of things." The duties of his office are few and alluring, but fraught with dire consequences. He sips the precious nectar for which he labors not, but he enjoys the feast at the sufferance of others. He basks in the balmy air and sunshine, but he returns to a home to which he can lay no claims, and is powerless to assert his inherent rights. Thus he flits through life till *functus officis* and speedily falls a victim to the monster so much dreaded by all animate nature.

I wish to remind Dr. Baker that "nature is wonderfully profuse in her ways." It is no harder to account for the superfluous number of drones reared under favorable circumstances than it is to account for the fact that

the atmosphere is literally loaded with pollen at times, when its chief office is to fructify the comparatively few seeds of the vegetable kingdom. No one colony of bees needs, or wants, or will tolerate more than one queen, yet I have removed more than 50 well developed queen cells from the combs of a single colony. Is this not also "marvelous?" I think that the facts which I have just cited are a fair offset to the argument based on the instructive tendency of bees to rear a superfluous number of drones.

Now what is our experience? I have made it a rule for years to test by actual experiment the truth or falsity of every important accepted proposition in bee-culture, and discover more if possible. In order to improve my colonies of bees, I have been in the habit of encouraging some colonies to rear an abundance of drones, whilst other colonies were not allowed to have any drones at all. With this state of things in an apiary, it is not difficult to learn what part of the programme the drones fill best. They are liberal consumers, and that continually. No matter how crowded the colony may be for room, you will never see the "gentlemen" hanging on the outside with the workers; they could not be induced to leave the well filled cells for such cold comfort as that. Nothing will move them but the habit of their afternoon flight or the poured out wrath of the ireful workers. But I tried an experiment last season that settled the matter to my own satisfaction at least. I kept a drone laying queen at the expense of about 50 lbs. of honey. I found that the queen was able to keep the hive stocked with drones in exact proportion to the number of worker bees I supplied her with, from other colonies. She could do no more than this, and did no more.

To sum the matter up in few words. I have found that when there is a generous flow of honey, the honey-storing capacity of colonies with and without drones, is much the same, but when the flow is light, there is all the difference in favor of colonies that have no drone consumers.

Christiansburg, Ky.

Iowa Homestead.

Increasing Bees by Division.

O. CLUTE.

If, from any cause, a colony of bees be deprived of its queen at a time when there are in the hive worker eggs, or worker larvæ not more than three days old, the bees will at once proceed to rear queens from these eggs or larvæ. To do this they enlarge the cells around a few eggs or larvæ, say from 5 to 12, and feed the young bee on the royal jelly, then, instead of growing into a worker bee it grows into a perfect female, or queen, eight days from the egg this young queen is sealed up in the cell to undergo the final transformation. It remains sealed in the cell about eight days, and then comes out a full-grown queen, perfect in all its parts. But it

has not yet met the drone or male bee; it is not yet fertilized.

If the weather is warm and pleasant the young queen, on the fifth day after hatching, will fly out in the air, on what bee-keepers call "her wedding journey." She meets the drone, copulation takes place, and she returns to the hive a fertilized queen. She never leaves the hive again unless she accompanies a swarm.

Suppose, now, that a bee-keeper desires to increase his bees by dividing. In warm weather when honey is coming in, and when the hive is quite populous with bees, he takes an empty hive, goes to the colony he wishes to divide, smokes it, opens it, takes out half the frames and all the bees that adhere to these frames, puts them in the empty hive, and then shakes a large part of the bees from two or three other frames into this new hive, and also in some of the frames left in the old hive. He now removes the new hive to the place in which it is to be left.

Now, the queen of the old hive may be left in the old hive, or else she will be in the new hive. Whichever has the queen will be all right, it will go on as if nothing had happened, only it will have fewer bees. The hive that has no queen will have eggs and larvae, and from these the bees will proceed to grow a queen, in the manner mentioned above. When the queen is grown and fertilized that colony will be all right.

This method of increasing swarms was formerly quite widely practiced. But it has important disadvantages, which have led the best bee-keepers to reject it in favor of the nucleus system.

For the American Bee Journal.

Bee-Keeping, and What?

EUGENE SECOR.

There is an old saying to the effect that one should not carry all his eggs to market in one basket. That would seem to hint that the pursuit of the specialist does not, as a rule, bring the most enjoyment, or is not the most profitable. Yet, specialists are benefactors of the race. When a person devotes his life to the development of one theory, or to the perfection of one practice, he ought to, and very often does, do much toward perfecting that branch. But mankind needs rest, recreation. It is necessary to the best development of both mind and body. A diversity of labor is restful. It takes the mind out of the rut. Besides, it broadens a man to think of more than one subject. A person can hardly be said to be educated who knows but one thing.

While it is true that bee-keeping may be made remunerative as an exclusive business, yet is it not better for the average bee-keeper to diversify employment by joining with it some other industry? If you answer yes, then what other employments naturally and profitably go with it?

Bee-keeping in the past was almost exclusively carried on by farmers.

This is one reason of so many failures. They did not require a rest of this nature. Their labor was diversified enough already. Because a man is a good farmer, is no reason why he is adapted to this business—in fact, is a reason why he is not. If he delights in his growing crops, if he wants to spend all of his working hours in the field, he will, generally, be too far from his apiary, and too tired when the bell rings for dinner, to give his colonies the needed attention. The hurry of spring work and the exhaustive labors of the summer will, in most cases, cause him to neglect the very little, but very necessary attentions which the bees require at these seasons, to make the balance on the right side of the ledger in the fall. I would not try to discourage farmers from keeping bees; but, unless they are adapted to it by nature—unless the bent of their minds is toward the details—the little things, and unless they possess energy enough to do the right thing at the right time whether tired or not, they can sweeten their pan cakes more cheaply with glucose than with honey of their own production.

Horticulture is a business which is well adapted to go hand-in-hand with apiculture. The fruit blossoms are among the first flowers in spring to gladden the busy toilers of the hive, and they, in turn, render the fruit-grower valuable assistance in the perfect fertilization of the flowers, without which a crop of fruit is impossible. Bee-keeping and fruit-growing are well calculated to go together, also, for the reason that everything can be under the eye of the proprietor. And again, the same qualities of mind are necessary in either case. The little things are looked after. Nothing is too insignificant to receive attention at the proper time. The love of study and investigation is developed by a continual association with nature's choicest productions. What more fascinating, and at the same time remunerative, employment could engage the mind of man or woman, than these combined? There are few towns in the United States, outside the larger cities, where the markets are fully supplied at all seasons with either fruit or honey. These home markets ought to be supplied by home production. There is money in the business. Look at the tin cans piled in every back alley in all our villages, which have come to us filled with products that ought to be raised at home, giving employment to the idle, bread to the hungry, and pleasure to both producer and consumer.

Another occupation that, in all country places, could well be located by the side of the apiary is blacksmithing. What pleasanter recreation, when resting from the labor at the anvil, than to watch the busy workers that never seem to tire, as they come in laden with the nectar that rejoiceth the heart of man, yea, that maketh his bones fat? When the heat of the day and the added heat of the forge drives him to seek the cooling shade, how delightful to contemplate that his assistants in la-

bor are only too glad of the sunshine to increase his and their treasures. My grandfather, who lived before the Revolutionary War, was a blacksmith, and one of the most successful bee-keepers of that period. The shop and the apiary divided his time. He kept from 50 to 75 colonies, and sold honey for 5 and 6 cts. per pound.

There are many other occupations that might be profitably and pleasantly coupled with bee-keeping, if the taste of the person leads him to habits of thought and study.

The minister may find respite from sermonizing, while he pursues, for an hour a day, the study of nature, through these the most interesting and instructive of nature's works. And to the credit of the profession be it said, that foremost among the bee masters of the world, stand the names of clergymen.

The lawyer might find it easier to return to his "brief" after an hour spent in the open air among the "free commoners." His clients would not suffer by reason of his rest.

The doctor could afford to study the wonderful mechanism of *apis mellifica*, and the medicinal virtues of honey, and if, in consequence, he should prescribe more honey and less pills, nobody but the pill-makers would suffer.

The student could master the sciences just as well if master of the science of bee-keeping, and the relief from his daily task would be as complete as though he played base-ball or pulled an oar.

Space will not permit me to enlarge further on this subject at this time. Various are the employments with which bee-keeping would alternate as a recreation to the benefit and happiness of all interested.

Forest City, Iowa.

For the American Bee Journal.

Questions about Honey Plants.

WM. PAXTON.

MR. EDITOR:—I enclose for name three honey plants which I value in order as numbered, though on longer acquaintance I may reverse it for want of a better name. I call No. 1 snowdrop. It grows wild and quite abundant on the Big Sioux and Missouri bottoms. No. 2 we call vervain; just coming into bloom; is a long and continuous bloomer and much visited by the bees. No. 3 I met for the first time while picking the other specimens, and call it the welcome stranger. It is a single plant growing in a hog lot, about 4 feet high. Finding bees on a single plant growing among a profusion of milkweed and snowdrop, attracted my attention, and since picking the specimen it occurs to me I may have found the highly lauded Simpson honey plant. If so, how can I best propagate—scatter in hog lot, waste places, or in a grove. In this land of wild flowers only, the honey harvest is late. My bees have only kept healthy brood-rearing up to July 4. Since then they are very busy. Some basswood a mile

away, milkweed and snowdrop plenty. Last season I think my bees were more advanced, and thought rape their best pasture. This season rape is not so plenty, and seems to yield poorly. Of white clover I found a single plant by the railroad switch, not larger than my hand, last spring. It grew to a clump 3 feet in diameter, and many seedlings appeared. This spring it grows and blooms finely, and my bees take to it as if an old acquaintance. I have nowhere seen white clover grow more luxuriant or abundant than in Eastern Iowa. It beats Ontario badly. Even the famous Canada thistle thrown in, will scarce equal it. If this region proves equally good, and the present small start would indicate it, then with additional groves for shelter, we will have a good honey region. In May I divided my strongest colony to receive a queen just shipped. She came dead, and since then I have changed the queen weekly, and have two colonies as strong as any in the yard. I had another queen shipped from Indiana on the 26th of June. She came on the evening of July 3d, and also dead. Why the queen should be over a week, while the card announcing the shipment came in less than 3 days is what I cannot understand.

N. W. Iowa and S. E. Dakota.

[1. *Symphoricarpos occidentalis*, or wolf berry.

2. *Verbena stricta*, or mullein-leaved vervain.

3. *Scrophularia nodosa*, or figwort (Simpson honey plant). This latter yields an abundance of nectar, but is very attractive to wasps as well as bees. It is curious to note that on such a plant the bees usually work downward, while the wasps visit the lower flowers first, then the higher in order.—T. J. BURRILL.

We do not know the better method of cultivating Simpson honey plant. Perhaps some of our correspondents who have experimented with it, will give full directions through the BEE JOURNAL.—ED.]

Rural New Yorker.

Practical Hints in Apiculture.

PROF. A. J. COOK.

It is the object of this paper to call attention to a few practical questions in apiculture, which, in the opinion of the writer, are not sufficiently considered even by many of our best beekeepers.

POOR QUEENS.—How often do we notice, in reading the reports of beekeepers, that some colony in the apiary gave results that far eclipsed those given by most of the others; while others seemed to gather but little more than their own needs required. Every attentive apiarist who observes closely, has noted the same fact in his own experience. The con-

clusion is obvious: some queens are superior, while others are practically worthless. The most successful cattle breeders, even with the best breeds, find that to achieve the best results they must continually weed out from their herds, selling off those that vary from the highest standard of excellence, and valuing above price some members of their herds. Bees are no exception to this law, and that apiarist is most wise who closely watches his bees, killing the poor and worthless queens that are sure to appear, and supplying their places with others reared from queens and, so far as possible, mated to drones, which are the descendants of the choicest queens in his bee yard. My first advice then is: Don't retain any but the very best queens. Constantly improve, by the most severe selection, the quality of your bees.

STIMULATIVE FEEDING.—It is well known to all students of apiculture that have had experience with Italian and German bees, that breeding ceases whenever the bees fail to find honey. But to keep the colonies strong we must secure continuous breeding, which can be secured by feeding a little each day whenever breeding ceases from a failure of the honey harvest. Neglect of a little thoughtful care in this direction takes largely from the pockets of our bee-keepers. With the new Syrian bees this seems unnecessary, as they breed continuously irrespective of the honey harvest.

STRONG COLONIES.—Another great error consists in tolerating weak colonies in the bee yard. The heading of this paragraph is the golden rule in apiculture, in spring, in autumn, indeed, at all seasons; if neglect has brought weak colonies, unite them, as weak colonies give no returns, and are sure to fall an easy prey to the bee moth, to robbers, and to the other ills that stand in the way of success.

INCREASE OF COLONIES PREVENTED.—To secure strong colonies, preparatory to a large yield of surplus comb honey, and not to thwart our own plans by inducing the swarming fever, has been the sore puzzle which has confronted most beekeepers. True, this is usually accomplished by proper care to ventilate, to shade the hive, and to so increase the space within the hive that the bees shall not become discontented with the old home and essay to move out into a new. Yet who has not found that, despite all these precautions, the bees will sometimes reject all overtures in their mad fury to move into new quarters? In case this inordinate desire to swarm is manifest, there is still a way to satisfy the bees without lessening the working force in the hive. If the bees seem determined to swarm usually there are several cases: if there is one, let the first swarm be placed in a new hive. When the second swarm—I refer to a swarm from some other hive—comes out, it will likely be on the same day; put this in the hive that swarmed first, after having destroyed all the queen cells in that hive. This colony is just as

strong now as it was before, in brood and bees, and the bees will be satisfied to settle down to work in the sections. A third swarm can be put in the hive from which came the second swarm; a fourth into the third, etc. We thus have increased but one, have satisfied the bees and still have kept all the colonies strong. If desired, at the last we may unite the swarm that issued first with the young bees and brood left in the hive from which issued the last swarm, in which case we have not increased our number at all. If we now give plenty of room there will be no further attempt to swarm, and we are almost sure to secure the best results in surplus honey.

Lansing, Mich.

For the American Bee Journal.

Do Bees Void Dry Excreta?

C. N. ABBOTT.

This subject appears to be still one of uncertainty, if I may judge from a letter by Wm. F. Clarke, on page 374 of the BEE JOURNAL; but any one having a doubt on the matter may in a few hours satisfy himself that bees do void dry, i. e., solid excreta, if he will take the trouble to do so.

Let him take a clean, new box, about 15 inches square and 9 inches deep, and have a 3-pound swarm of bees in it; when they are quiet, let him reverse the box and cover the top with a sheet of perforated zinc, or with open strainer canvas to prevent the bee's escape, let him now take the box of bees, with the zinc or canvas side uppermost, to the nearest railway station, and send them a journey of about 40 miles out and home again, and if, after returning the bees to their hive, he does not find thousands of grains of dry excreta on the bottom of the box he may conclude that I have deceived myself, or that I am an imposter. The test is a very simple one, and I can but wonder that it is necessary to suggest it in a land where bee-culture is so largely developed.

Mr. Clarke does not agree with me that "protracted confinement" produces "dysenteric symptoms," but I hold to my assertion, the conditions being as stated by me, viz: when bees are confined to their combs during a 24-hours' journey by railway. I have dealt with many hundreds of purchased colonies and swarms, but I have never set a full colony out after a long journey without very decided evidences of "dysenteric symptoms" exhibiting themselves, and I believe them, in all such cases, to be the perfectly natural outcome of a physiological condition of things which seems to have escaped the notice and the cognizance of otherwise the best beekeepers in the world, to this date. I say "the cognizance" because, although I have many times, in the *British Bee Journal*, which has a worldwide circulation, alluded to the fact, no one appears to have recognized it, though it presents a subject for investigation as to muscular developments and uses, such as doubtless many of

our (and your) great bee anatomists would take delight in investigating.

My standpoint is: Bees can only void their excreta naturally when on the wing. I do not put this forward as a theory, but as a fact, and upon it base a theory that the construction of the bee is arranged to that end, that its home under ordinary conditions should never be fouled. Herein is a very great deal more than appears at first sight, but I venture to assert that if sought out faithfully and well, it will be found that the muscles that give the power of flying, govern in a sense the power of discharging excreta.

Mr. Clarke does not believe "that protracted confinement produces dysenteric symptoms if the bees are in such a state that they can void dry excreta," which is equivalent to saying, one cannot be frozen, and boiling hot at the same time, but transition from the one state to the other may be so rapid under certain conditions that it is easy to assume, and to prove, also, that bees that at one time were capable of voiding dry feces, would become dysenteric after very slightly protracted confinement under other conditions. Twenty-four hours' confinement to full combs, on a railway journey, being considered "protracted" in the one case, while twice 24 days' quiet confinement through stress of weather in a hive "well found," would but be talked of as a nice time of natural rest for the bees.

Mr. Clarke further says, "when we have discovered the conditions under which bees discharge dry feces only, we shall have solved the problem of successful wintering," and to this I in a measure agree, and in the meantime claim to have discovered one of those conditions.

Of my position in regard to this matter, though hailing from England (the old country, where so little is supposed to be known of bee-culture by the majority of American bee-keepers), I am as certain as I am that the sun will be in the meridian at noon to-morrow; but lest I might be "tripped," through not bringing all my arguments to bear at once, I forbear enlarging for the present, and hope my American friends will believe, as is most true, that my object herein is for the general common weal.

I thank Mr. Clarke exceedingly for making the opportunity for me to offer this contribution to apian science, and which, if thought worthy of notice, I trust will be discussed in the kind spirit in which he opened the question. I think, with him, the matter is not of curious interest only, "but highly practical," and I await with respect the opinions of American experts on the proposition.

Fairlawn, Southall, England.

A Sample Copy of the Weekly BEE JOURNAL will be sent free to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

SELECTIONS FROM OUR LETTER BOX

Bees Going into Other Hives.—1. What is the reason that bees when they swarm sometimes go into another hive with other bees. We have one hive in our apiary that seems to be the center of attraction. Three large swarms went into that hive, and we had to put another hive on top of it. 2. What can we do? One colony that we left a few days and then put on the second story does not work good, while the colony that we put the top hive on right away is working nicely. 3. What reason is there for this? Bees are gathering lots of honey. Three colonies have brood in their honey-boxes. 4. Would it be best to take off brood and all? We have 28 colonies, and have realized about \$100 this year selling honey at 20 cents per pound here. Clover will stay about 2 weeks yet, and with basswood late swarms ought to gather enough to winter on. If they fail, I will lose a number. 5. What do you think about late swarms?

S. T. WOOLWORTH.

Gratiot, Wis.

[1. Probably for the reason that their scouts have found that hive but illy guarded, have effected an entrance and inspected the premises, and reported favorably. It is not of unfrequent occurrence for succeeding swarms to follow the same course as their predecessors, even to clustering in the same locality.

2. Let them stay, as there is probably but one queen now.

3. The reason may be from one of many causes. An examination inside the hive will reveal it.

4. Yes, and extract the honey, then give a fresh box.

5. If not too late to breed young bees and lay up stores for winter, they will do for increase, but not for surplus honey gathering, unless frost holds off quite late, and fall bloom is very abundant.—Ed.]

Behind Time.—We have had a backward season in this section for honey. Every blossom is from 10 days to 2 weeks behind time, and such a slaughter of drones never was seen the middle of June. The 1st of July brought plenty of raspberry and plenty of swarms. It is now time for basswood to open, but that is backward also. This section is getting to be a great place for buckwheat—about 200 hundred acres within reach of my apiary. But some folks do not like buckwheat honey; well, suppose they do not, it certainly is good enough to put on buckwheat cakes.

WM. C. CASSON.

Addison, N. Y., July 13, 1882.

Queen Cell from Fertile Worker.—Did any person ever have bees with fertile worker build queen cell and put the larva of a fertile worker in the cell, and rear a queen; if so, was she a good queen? Give her quality and size, and did she mate with a drone? I have one now in a capped cell. My bees are all in splendid condition, although the weather is extremely cool, or warm, or wet. The white clover was never better. Prospects for a fall crop of honey are splendid.

R. M. OSBORN.

Kane, Ill., July 17, 1882.

[With plenty of leisure on your hands, and an inquiring turn of mind, we hope you will institute a series of experiments, to see what will be the result of your capped queen cell with fertile worker larva. If the drones are not objectionable, why not devote the colony to experiments, and, if necessary, destruction?—Ed.]

Mr. Shucks' Problem.—With Mr. Shucks' bees (see BEE JOURNAL, page 444) they were so much excited by the general mixing up that they did not get over it until they had gone long without food and dysentery was brought on. Bees will not eat in a worrying condition. I have had bees have dysentery after 5 days' fasting, but food cured them; quite cured Mr. Shucks'.

E. B. SOUTHWICK.

Mendon, Mich.

[Our experience has been, that when bees are greatly disturbed is the exact time when they eat most. We have found this the most serious drawback with the Italians for extracting, for, if they are badly frightened and the second shake fails to free the comb from them, they immediately plunge into the cells after food, and it is a somewhat troublesome task to brush them out with the feather.—Ed.]

Rearing Drones.—I have one colony of black bees, and am getting an Italian queen, and, as I can sell a few queens this fall, would like to know—1. Can I compel the bees to rear some drones (the blacks have already killed off their drones around here) by feeding? 2. If I make some nuclei to rear queens, can I double them back so as to winter? Bees are doing very little here this season—too cold and wet I suppose.

Houghton, Ont. S. T. JACKSON.

[1. If a young queen, you will have difficulty stimulating drone-rearing this season, and for your climate could not get them in season for testing progeny this fall.

2. There is no trouble in doubling up; but you would be obliged to keep the nuclei constantly reinforced with brood, or the bees would be too old for effective wintering.—Ed.]

Fertile Worker.—I send you by mail a small piece of comb, lately taken from the hive of a neighbor. The queen, with nuclei, had been out of this hive for about 6 days only. You will find many eggs in the same cell. Is it a case of fertile worker? An answer will confer a favor on your correspondent. Does this number of eggs in one cell indicate a fertile worker? Is there any sure indication?

PHIL REARDEN.

Jamestown, Col.

[If the colony was queenless six days, and you then found eggs in and near the center of the brood-nest, it was a pretty sure indication of fertile workers; and the fact of several being in each cell, is corroborative of there being several. We believe that those conditions which induce the development of a single fertile worker will also develop a plurality, so that there is the same probability of half a dozen, or more, as one. We have had young mated queens, when first commencing to lay, deposit from one to four eggs in a cell; probably because other cells were not properly cleaned out in time for their use. These, however, were in each case thinned down to one in a cell by the bees; the extra ones, probably, being put in other cells as fast as they were ready.—ED.]

Anticipations Realized.—Bees are doing exceedingly well. I am fully realizing my most enthusiastic anticipations. Everything indicates an uninterrupted flow of honey until frost comes.

PHILIP P. NELSON.

Manteno, Ill., July 17, 1882.

Comb Foundation.—Bees have been doing very well here for the last month. Swarming in some cases has been excessive, and colonies are getting in good shape for winter. This is the first year that I have put swarms on foundation, and I find that it pays well. We will get very little surplus honey this season; but we have a large crop of wheat now harvested and ready for the separator, a tolerable crop of hay secured, and the corn growing finely. Farmers are happy.

ISAAC SHARP.

Waveland, Ind., July 15, 1882.

Only Fair Weather Needed.—Bees are breeding rapidly now, but it is too cold for surplus. Magnificent white clover bloom, and all we need is good weather for the boom to reach us. Linden will open in two or three days, and is very promising. With fair weather the fall run cannot fail to be immense. Your JOURNAL is hailed with pleasure, and is an invaluable adjunct to every apiarian establishment as well as to the amateur. Have 35 colonies; first swarm to-day.

L. S. BENHAM.

Alma, Mich., July 18, 1882.

Pasturage for Bees.—We have had the worst season for bees I ever saw—too much rain, wind, cold, late frosts, etc. I sowed in drills some mignonette and cleome, but the latter did not grow. I cultivated most of the mignonette until harvest, and it did well early, but since I quit cultivating the weeds and grass have choked it so badly that it is doing no good. The sweet clover I cultivated is fine, but the crop is so badly choked up and spindling, it is of no account. We have some motherwort and I like it well, but am not satisfied. For a general crop will it spread if sown broadcast on good, rich timber land? If sown early in the fall, on well-prepared ground, will it thrive and bloom the next year? I never knew any planted; it grows spontaneously here in rich fence corners.

A. MCKNIGHT.

Bible Grove, Ill., July 15, 1882.

[It ought to do well if sown broadcast, provided there is not too much timber. We planted some two years ago in the fall. It blossomed the following season, and is doing well yet.—ED.]

The Honey Harvest.—The honey crop here is an entire failure. The present season has demonstrated that there are other important prerequisites to a good honey yield, besides plenty of bloom. The latter condition has been present in profusion, but there has been but little nectar secreted, and less weather suitable for bees to have collected it. I have taken with the extractor a few gallons of honey, too thin for any use, and there has not been sunshine sufficient to evaporate it. There is still plenty of bloom, but continuous rain keeps the bees at home. My bees have not been busy in the fields two whole days at once, at no one time for weeks. The wheat and oats crops are better than they have been for years. The growing corn crop looks promising now, although much of it did not get the work it needed on account of the wet weather. Much of the tobacco crop is submerged in weeds and grass; much of it will be entirely abandoned and lost.

G. W. DEMAREE.

Christiansburg, Ky., July 17, 1882.

Silver Linings.—After many fitful struggles the clouds have lifted and the silver linings glimmer over our house. Never before in the history of 30 years have I had to feed my bees in the month of May, but it is bread cast upon the waters, for those fed most are now returning the largest surplus, and I see no good reason why the honey season should not continue till Jack Frost nips the flowers.

J. W. BAYARD.

Athens, O., July 17, 1882.

Prospect Very Poor.—Up to this date bees appear to have gathered no honey from white clover. A good deal in bloom, but yields none. Prospect for honey very poor.

W. D. FOOTE.

Johnstown, N. Y., July 13, 1882.

Still Hoping.—The season has been very poor so far. It has been too cold and wet. Not one pound of surplus yet, and only one swarm, but if the weather keeps dry and warm I think we will get something yet. There is plenty of white clover. Basswood has a good appearance and will be out in about two weeks. A great many bees have died this spring. Nearly all of the loss was caused by starvation. Bees here are mostly kept in box hives. We have 43 colonies in Langstroth hives, double-wall. Lost 3 colonies this spring.

DICKSON BROS.

Lancaster, Ont., July 15, 1882.

A Large Honey Harvest.—My bees are doing well. I have about 25,000 pounds of honey extracted up to date. I would have had more, but two of my men are down with the fever. The weather has been unfavorable for the bees for the last few days. As soon as it clears off I will extract about 2,000 to 2,500 pounds per day. There are about 300 of my colonies that need extracting, which will give me from 4 to 6 gallons each this extracting.

L. LINDSLEY.

Waterloo, La., July 11, 1882.

A Peculiar Season.—This has been a very peculiar season here. The commencement of clover bloom, about June 10th, found bees very weak in numbers. Clover has given a good yield ever since that time, whenever we would have sunshine long enough for the grass to dry off; but sunshine has been the exception—not the rule. So far, bees have not been able to work over one-third of their time, and, of course, the amount of surplus honey is small. Colonies are more populous than they would have been if the honey flow had been heavier, and a fair yield can yet be obtained if we should have good weather the rest of the season.

O. O. POPPLETON.

Williamstown, Iowa, July 15, 1882.

Exasperated.—MR. EDITOR: Your serene hopefulness is simply exasperating to bee-keepers who have not taken a pound of honey this season, and have fed the bees in May and part of June to keep them in condition. I think you will find those districts, which make a crop, to form the exception, and not the rule as you put it. Our only hope now here is the fall crop, and if the weather remains as it is (which is more than likely), we may have to feed for winter.

T. H. KLOER.

Terre Haute, Ind., July 18, 1882.

[Our correspondent has our sympathy in his disappointment; but if the mere recital, by the BEE JOURNAL, of general prosperity is so exasperating, with what bitter hatred must he read Mr. Nelson's cheerful letter in the first column of this page. We once heard of an old lady whose grandchildren had the mumps, but remarked, philosophically, "La, we don't care while the neighbors have measles."—ED.]

THE AMERICAN BEE JOURNAL

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THOMAS G. NEWMAN,

925 West Madison Street., Chicago, Ill.

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The BEE JOURNAL is mailed at the Chicago Postoffice every Tuesday, and any irregularity in its arrival is due to the postal employes, or some cause beyond our control.

We will send Cook's Manual in cloth, or an Apiary Register for 100 colonies, and Weekly BEE JOURNAL for one year, for \$3.00; or with King's Text-Book, in cloth, for \$2.75; or with Bees and Honey, in cloth, \$2.50.

Always forward us money either by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, or local checks, are not taken by the banks in this city except at a discount of 25 cents, to pay expense of collecting them.

Premiums.—Those who get up clubs for the Weekly BEE JOURNAL for one year, will be entitled to the following premiums. Their own subscription may count in the club:

For a Club of 2,—a copy of "Bees and Honey."	
" " 3,—an Emerson Binder for 1882.	
" " 4,—Apiary Register for 50 Colonies, or Cook's (Bee) Manual, paper.	
" " 5,—" " cloth.	
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Or they may deduct 10 per cent in cash for their labor in getting up the club.

Honey as Food and Medicine.

A new edition, revised and enlarged, the new pages being devoted to new Recipes for Honey Medicines, all kinds of cooking in which honey is used, and healthful and pleasant beverages.

We have put the price of them low to encourage bee-keepers to scatter them far and wide. Single copy 6 cents, postpaid; per dozen, 50 cents; per hundred, \$4.00. On orders of 100 or more, we print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

Articles for publication must be written on a separate piece of paper from items of business.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or \$8 per 100.

Binders cannot be sent to Canada by mail—the International law will not permit anything but samples of merchandise weighing less than 8 oz.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

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Our new location, No. 925 West Madison St., is only a few doors from the new branch postoffice. We have a telephone and any one in the city wishing to talk to us through it will please call for No. 7087—that being our telephone number.

Constitutions and By-Laws for local Associations \$2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

Do not let your numbers of the BEE JOURNAL for 1881 be lost. The best way to preserve them is to procure a binder and put them in. They are very valuable for reference.

Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

Honey and Beeswax Market.

OFFICE OF AMERICAN BEE JOURNAL, }
Monday, 10 a. m., July 24, 1882.

The following are the latest quotations for honey and beeswax received up to this hour:

Quotations of Cash Buyers.

CHICAGO.

HONEY—1 am paying 7c. for dark and 9c. for light extracted.
BEESWAX—Choice lots are worth 25c. here; bright yellow, 24c.; dark to good, 17@22c.

AL. H. NEWMAN, 923 W. Madison St.

CINCINNATI.

HONEY—The market for honey is quiet. Extracted brings 7@10c. on arrival. No comb honey on the market worth mentioning, prices nominal.
BEESWAX—Scarce, and brings 20@25c. on arrival.
C. F. MUTH.

Quotations of Commission Merchants.

CHICAGO.

HONEY—The demand for comb honey is light, prices being made to meet views of purchaser.
BEESWAX—Scarce, and in demand at 23@25c.
R. A. BURNETT, 165 South Water St.

NEW YORK.

HONEY—White clover, fancy, 1 lb. bxs., 15@16c.; white clover, good to choice, 1 and 2 lb. bxs., 13@14c.; buckwheat, 2 lb. bxs., per lb., 11@12c. Extracted and strained, white, 9@10c.; dark 7@8c.
BEESWAX—The market continues rather quiet, but the supply is light and prices firmly sustained. Western, pure, 25@26c.; Southern pure, 24@27c.
D. W. QUINBY, 105 Park Place

CLEVELAND.

HONEY—Comes in very slowly, and is readily sold at 25c. per lb. for 1 lb. sections. No larger sections received yet. Our experience in the honey trade for the past 25 years, teaches that during the whole year there is no better sale for honey than August and September. The demand at this time is greater and prices as high as at any time during the year, especially for comb honey. Extracted probably sells better later. No extracted has thus far been received, but it could be quoted at 10@12c. BEESWAX—25@28c.
A. C. KENDEL, 115 Ontario Street.

SAN FRANCISCO.

HONEY—Not much arriving, and most of that is held above buyers' views. Some very white comb is offering at 16c. Buyers refuse to name more than 8c. for extracted of the choicest quality, but there are some lots of excellent body, color and flavor, which are limited at 9c.
We quote white comb, 15@29c.; dark to good, 8@12c. Extracted, choice to extra white, 7@8@9c.; dark and candied, 6@6@9c. BEESWAX—23@25c.
STEARNS & SMITH, 423 Front Street.

BOSTON.

HONEY—Trade quiet. We quote at 20@22c., according to quality.
BEESWAX—Prime quality, 25c.
CROCKER & BLAKE, 57 Chatham Street.

ST. LOUIS.

HONEY—New Texas comb (when the combs are perfect) brings 20@22c. Quote strained at 8@10c.; extracted at 12c. per lb.
BEESWAX—Prime in demand at 24@25c.
R. C. GREER & CO., 117 N. Main Street.

The Apiary Register.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it.

For 50 colonies (120 pages).....\$1 00
" 100 colonies (220 pages)..... 1 50
" 200 colonies (420 pages)..... 2 00

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones to procure at the start.

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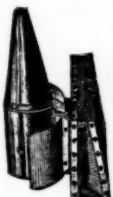
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